Chapter 7
Laws, Regulations, and Other Requirements

7.0 LAWS, REGULATIONS, AND OTHER REQUIREMENTS

This chapter presents the environmental, safety, and health laws, regulations, orders, and permits that could apply to activities associated with the proposed alternatives evaluated in this *Versatile Test Reactor Environmental Impact Statement* (VTR EIS). These requirements and standards originate from a number of sources. Federal and State statutes define broad environmental and safety programs and provide authorization to agencies to carry out the mandated programs. More-specific requirements are established through regulations, at both the Federal and State levels. Federal agencies, such as the U.S. Department of Energy (DOE), receive additional direction in complying with executive policy through Executive Orders. In addition, DOE has established regulations and management directives (DOE Orders) that are applicable to DOE activities, facilities, and contractors. Regulations often include requirements for permits and consultations, which provide an in-depth, facility-specific review of the activities proposed.

Section 7.1 of this chapter summarizes the Federal, DOE, and State environmental, safety, and health requirements. Section 7.2 summarizes the existing facility permits and potential new permits or approvals for construction and operation of facilities at the candidate sites. Section 7.3 discusses required and potential consultations with Federal and State agencies and federally recognized American Indian tribal governments.

7.1 Applicable Federal and State Laws and Regulations

The proposed activities at the Idaho National Laboratory (INL), Oak Ridge Reservation (ORR), and Savannah River Site (SRS) would be regulated by numerous Federal and State legal requirements addressing environmental compliance. For some activities, DOE has sole authority to take action, such as under the Atomic Energy Act of 1954. The VTR would be authorized by DOE, just like previous test reactors (e.g., the Advanced Test Reactor, High Flux Isotope Reactor, and Transient Reactor Test Facility). The VTR would not be licensed by the U.S. Nuclear Regulatory Commission.

The U.S. Department of Transportation regulates commercial transportation of hazardous and radioactive materials. The U.S. Environmental Protection Agency (EPA) would regulate many aspects of the proposed activities. In many cases, EPA has delegated all or part of its environmental protection authorities to the States but retains oversight authority. In this delegated role, the Idaho Department of Environmental Quality (IDEQ), Tennessee Department of Environment and Conservation (TDEC), and South Carolina Department of Health and Environmental Control (SCDHEC) regulate most air emissions; discharges to surface water and groundwater; drinking water quality; and hazardous and nonhazardous waste treatment, storage, and disposal. Under DOE Order 436.1, Departmental Sustainability, it is DOE's policy to carry out its mission in a sustainable manner by maximizing energy and water efficiency; minimizing chemical toxicity and harmful environmental releases; promoting renewable and other clean energy development; and conserving natural resources while sustaining assigned mission activities.

The major Federal laws, regulations, Executive Orders (Presidential directives that apply only to Federal agencies), and DOE Orders; State laws and regulations; and other requirements that could apply to the alternatives analyzed in this VTR EIS are identified in **Table 7–1**.

Table 6–1. Applicable Laws, Regulations, Orders, and Other Requirements

Law, Regulation, Order, or Other Requirement	*Description*
General Environmental	
National Environmental Policy Act of 1969, as amended (NEPA), 42 U.S. Code (U.S.C.) § 4321 et seq.	Establishes a national policy for environmental protection and directs all Federal agencies to use a systematic, interdisciplinary approach to incorporating environmental values into decision-making (Idaho, Tennessee, and South Carolina do not have State NEPA regulations).
Council on Environmental Quality*, Regulations for Implementing NEPA,* 40 Code of Federal Regulations (CFR) Parts 1500–1508	Defines actions that Federal agencies must take to comply with NEPA, such as the development of environmental impact statements.
DOE National Environmental Policy Act Implementing Procedures, 10 CFR Part 1021	Establishes DOE's program implementing the procedural provisions of NEPA.
Executive Order 11514, *Protection and Enhancement of Environmental Quality* (03/05/70), as amended by Executive Order 11991 (05/24/77)	Requires Federal agencies to direct their policies, plans, and programs so as to meet national environmental goals established by NEPA.
Executive Order 12088*, Federal Compliance with Pollution Control Standards* (10/13/78)	Directs Federal agencies to comply with applicable administrative and procedural pollution control standards established by, but not limited to, the Clean Air Act (CAA), Noise Control Act, Clean Water Act (CWA), Safe Drinking Water Act, Toxic Substances Control Act, and Resource Conservation and Recovery Act (RCRA).
Executive Order 13834*, Efficient Federal Operations* (05/17/18)	Focuses on meeting statutory requirements to improve efficiency, optimize performance, eliminate unnecessary use of resources, and protect the environment.
DOE Order 231.1B, *Environment, Safety, and Health Reporting* (Change 1, 11/28/12)	Ensures timely collection, reporting, analysis, and dissemination of information on environment, safety, and health issues as required by law or regulations or as needed by DOE.
DOE Order 436.1, *Departmental Sustainability* (05/02/11)	Defines requirements and responsibilities for managing sustainability within DOE.
DOE Policy 450.4A, *Integrated Safety Management Policy* (Change 1, 01/18/18)	Sets forth the framework for identifying, implementing, and complying with environmental safety and health requirements so that work is performed in the DOE complex in a manner that ensures adequate protection of workers, the public, and the environment.
DOE Policy 451.1, *National Environmental Policy Act Compliance Program* (12/21/17)	Establishes DOE's expectations for implementing NEPA; the Council on Environmental Quality Regulations for Implementing the Procedural Provisions of NEPA (40 CFR Parts 1500-1508); and the DOE NEPA Implementing Procedures (10 CFR Part 1021).
Water Resources	
Federal Water Pollution Control Act (Clean Water Act [CWA]), 33 U.S.C. 1251 et seq.	Establishes a national program to restore and maintain the chemical, physical, and biological integrity of navigable waters by prohibiting the discharge of toxic pollutants in significant amounts; requires Federal agencies to comply with Federal, State, and local water quality requirements; Section 404 of the CWA regulates development activities in jurisdictional surface waters and wetlands, and delegates EPA and the U.S. Army Corps of Engineers (USACE) to share Section 404 enforcement authority regarding the discharge of dredged or fill material into waters of the United States; allows EPA to delegate primary enforcement authority for National Pollutant Discharge Elimination System (NPDES) permits (Section 402) to Idaho, Tennessee, and South Carolina (see NPDES discussion below).

Law, Regulation, Order, or Other Requirement	Description
National Pollutant Discharge Elimination System, 40 CFR Part 122	Creates a permit program for point-source discharges of pollutants to waters of the United States; establishes permitted effluent limits to ensure that water quality standards are met; delegates authority for administration of the NPDES Program to the States of Tennessee and South Carolina. (On June 5, 2018, the EPA Administrator approved the application by the State of Idaho to administer and enforce the Idaho Pollutant Discharge Elimination System [IPDES] program. Idaho administration of the NPDES program is expected to be fully implemented by 2021 [EPA 2019c].)
Navigation and Navigable Waters, 33 CFR Parts 320-332	Provides for U.S. Army Corps of Engineers regulation of activities that may modify any navigable waters of the U.S. including the discharge of dredged or fill materials.
Department of the Army, USACE, and EPA Final Rule: *Repeal of the 2015 Clean Water Rule: Definition of "Waters of the United States"* (12/23/19) 33 CFR Part 328, 40 CFR Part 110, 40 CFR Part 112, 40 CFR Part 116, 40 CFR Part 117, 40 CFR Part 122, 40 CFR Part 230, 40 CFR Part 232, 40 CFR Part 300, 40 CFR Part 302, 40 CFR Part 401	Amends portions of the CFR to restore the regulatory text that existed prior to the 2015 Rule regarding the definition of "*Waters of the United States*". With this final rule, the regulations defining the scope of Federal CWA jurisdiction will be those portions of the CFR as they existed before the amendments promulgated in the 2015 Rule.
Safe Drinking Water Act of 1974, as amended, 42 U.S.C. 300f et seq.	Establishes a national program to ensure the quality of drinking water in public water systems; allows EPA to delegate primary enforcement authority to Idaho, Tennessee, and South Carolina.
National Primary Drinking Water Regulations, 40 CFR Part 141	Creates standards for maximum contaminant levels for pollutants in drinking water; used as groundwater protection standards.
Procedures for Decision-making (Permitting), 40 CFR Part 124	Contains EPA procedures for issuing, modifying, revoking and reissuing, or terminating all RCRA, Prevention of Significant Deterioration (PSD), and NPDES permits.
Executive Order 11988, *Floodplain Management* (05/24/77)	Directs Federal agencies to consider the effects of flood hazards and avoid impacts on floodplains, if practicable. Also requires Federal agencies to evaluate the potential effects of any actions to minimize impacts on the floodplain's natural and beneficial values. Applicable to any new structures built in areas that include floodplains.
Executive Order 11990, *Protection of Wetlands* (05/24/77)	Directs Federal agencies to avoid construction in wetlands and to mitigate impacts of any use of wetlands. Applicable to any new structures built in areas that impact wetlands.
DOE Compliance with Floodplain and Wetlands Environmental Review Requirements, 10 CFR Part 1022	Establishes policy and procedures for implementing responsibilities for protection of floodplains and wetlands.
Idaho Water Pollution Control Act of 1983, Idaho Code (IC) 39-3600 et seq. Idaho Wastewater Rules, Idaho Administrative Procedures Act (IDAPA), 58.01.16 Idaho Recycled Water Rules, IDAPA 58.01.17	Establishes a program to enhance and preserve the quality and value of water resources. Creates procedures and requirements for the planning, design, and operation of wastewater facilities and the discharge of wastewaters and human activities which may adversely affect public health and water quality in the waters of the State.
Idaho Groundwater Quality Rules, IDAPA 58.01.11	Establishes minimum requirements for protection of groundwater quality through standards and an aquifer categorization process; serves as basis for administration of programs which address groundwater quality but do not in and of themselves create a permit program.

Law, Regulation, Order, or Other Requirement	Description
Idaho Rules for Public Drinking Water Systems, IDAPA 58.01.08	Controls and regulates the design, construction, operation, maintenance, and quality control of public drinking water systems to provide a degree of assurance that such systems are protected from contamination and maintained free from contaminants that may injure the health of the consumer.
Tennessee Water Quality Control Act, Tennessee Code Annotated (TCA) 69-1-117, TCA 69-3-101 et seq., 70-324-70 Tennessee Division of Water Pollution Control, Tennessee Rules 0400-40-01 et seq.	Governs impairment or obstruction of navigability of watercourses; establishes the authority to issue new or modify existing NPDES permits required for a water discharge source and mandates protection of water quality; requires permit prior to alteration of a wetland.
Tennessee National Pollutant Discharge Elimination System, TCA 69-3-108 NPDES General Permits, TDWPC, Rule 0400-40-10	Implements an EPA-authorized State program that administers both Federal and State requirements for point and nonpoint source discharges to surface water.
Tennessee Safe Drinking Water Act of 1983, TCA 68-221-701 Public Water Systems, Tennessee Rules 0400-45-01	Adopts Federal standards for drinking water.
Tennessee Aquatic Resource Alteration, Tennessee Rules, 0400-40-07 et seq.	Creates an Aquatic Resource Alteration Permit that "authorizes the alteration of properties of waters of the state that result from activities other than discharges of wastewater through a pipe, ditch, or other conveyance"; establishes a permit process for activities that are likely to impair or obstruct navigability.
Tennessee Department of Environment and Conservation, General Water Quality Criteria, Chapter 0400-40-03, Rule 0400-40-03-.06(4)a	Provides requirements for a wetland to be considered Exceptional Tennessee Waters (ETW). ETWs are aquatic resources with features that merit special attention or consideration and are significant at the national, State, or regional level. An ETW designation is expected for aquatic features within the proposed project area. The ETW designation is determined via the Tennessee Rapid Assessment Method (TRAM), used to protect existing uses of all surface waters.
South Carolina Pollution Control Act, SC Code § 48-1-10 et seq. Water Pollution Control Permits, SC Regulation 61-9 Water Classifications and Standards, SC Regulation 61-68 Water Quality Certification, SC Regulation 61-101	Establishes a wide-ranging water protection program, including some provisions not addressed by the CWA (for example, permit requirements for construction of wastewater treatment plants). Provides an opportunity for the State to review and certify a Federal permit or license for an activity that results in discharges to navigable waters.
South Carolina Safe Drinking Water Act, SC Code § 44-55-10 et seq. State Primary Drinking Water Regulations, SC Regulation 61-58	Creates a State program regulating public water systems. Adopts Federal standards for drinking water and controls and regulates the design, construction, operation, maintenance, and quality control of public drinking water systems.
South Carolina Groundwater Use and Reporting Act, SC Code § 49-5-10 et seq. Groundwater Use and Reporting, SC Regulation 61-113	Establishes State standards to maintain, conserve, and protect groundwater in the State. Mandates that any person withdrawing groundwater in excess of 3 million gallons during any 1 month from a single or multiple wells under common ownership and within 1 mile of an existing or proposed well or intake must register with, annually report to, and be permitted by the SCDHEC.
South Carolina Surface Water Withdrawal, Permitting Use, and Reporting Act of 2010, SC Code § 49-4-10 et seq. Surface Water Withdrawal, Permitting Use, and Reporting, SC Regulation 61-119	Mandates that any person withdrawing surface water in excess of 3 million gallons during any 1 month must register with, annually report to, and be permitted by the SCDHEC.

Law, Regulation, Order, or Other Requirement	Description
South Carolina Erosion and Sediment Reduction Act, SC Code § 48-18-70 Standards for Stormwater Management and Sediment Reduction, SC Regulations, 72-405 et seq.	Establishes a comprehensive program and processes for managing stormwater and sediment to reduce potential flooding and to prevent water quantity and quality problems and meet the requirements of Section 402 of the CWA and the NPDES Stormwater Program.
Air Quality	
Clean Air Act of 1970, as amended, 42 U.S.C. 7401 et seq.	Requires Federal agencies to comply with air quality regulations; includes four major programs: the National Ambient Air Quality Standards (NAAQS); State implementation plans; new source performance standards; and National Emission Standards for Hazardous Air Pollutants (NESHAP). Allows EPA to delegate authority for most CAA provisions to Idaho, Tennessee, and South Carolina, who would issue or modify permits, as needed, for stationary sources associated with the proposed activities.
Ambient Air Quality Standards/State Implementation Plans, 40 CFR Parts 51 and 58	Establishes the National Ambient Air Quality Standards (NAAQS), which are divided into primary and secondary categories for carbon monoxide, lead, nitrogen dioxide, ozone, sulfur dioxide, and particulate matter. (Proposed activities would add to site emissions, whose combined ambient concentrations are then compared to the standards.)
Prevention of Significant Deterioration, 40 CFR 51.166	Establishes processes for maintaining air quality in areas already in compliance with the NAAQS (attainment areas); requires comprehensive preconstruction review and the application of best-available control technology for major stationary sources.
New Source Performance Standards, 40 CFR Part 60	Creates industry- and process-specific standards that apply to any new, modified, or reconstructed sources of air pollution.
National Emission Standards for Hazardous Air Pollutants and for Source Categories, 40 CFR Parts 61 and 63	Defines hazardous air pollutants (HAPs) (such as radionuclides, mercury, and asbestos) and maximum achievable control technologies by industry or process. (Proposed activities would add to site HAPs emissions, whose combined ambient concentrations are then compared to the standards).
National Emission Standards for Emissions of Radionuclides other than Radon from Department of Energy Facilities, 40 CFR Part 61, Subpart H	Establishes requirements for monitoring radionuclide emissions from facility operations and analyzing and reporting radionuclide doses; limits, in Subpart H, the radionuclide dose to a member of the public to 10 millirem per year.
State Operating Permit Programs, 40 CFR Part 70	Defines minimum permit requirements, including air pollution control, reporting, monitoring, and compliance certification requirements; includes permitting program known as Title V for major sources of air pollution.
Idaho Environmental Protection and Health Act, IC, Title 39, Health and Safety, Chapter 1, Department of Health and Welfare, Sections 39-105 Rules for the Control of Air Pollution in Idaho, IDAPA 58.01.01	Provides for development of regulations for the control and permitting of air emission sources. Provides rules and permitting programs to control air pollutant emissions in Idaho.
Tennessee Air Quality Act, TCA 53-3408 et seq. Tennessee Air Pollution Control Regulations, Tennessee Rules 1200-3-1-.01 et seq.	Requires permits to operate an air containment source; sets fugitive dust requirements. Implements provisions of the Tennessee Air Quality Act; identifies measures and programs to control and permit sources of air pollution and hazardous air contaminants in Tennessee. Sources that emit criteria pollutants and HAPs are regulated under permits to construct and operate.
South Carolina Pollution Control Act (1972), SC Code §48-1-10 et seq. South Carolina Air Pollution Control Regulations and Standards, SC Regulation 61-62	Defines regulatory authority for air quality permitting and regulation pertaining to activities at SRS that are permitted by the State. Regulates sources that emit criteria pollutants and HAPs under construction and operational permits.

Law, Regulation, Order, or Other Requirement	*Description*
Biological Resources	
Migratory Bird Treaty Act of 1918, 16 U.S.C. 703 et seq. Migratory Bird Hunting, 50 CFR Part 20 Migratory Bird Permits, 50 CFR Part 21	Implements several international treaties related to the protection of migratory birds and makes it illegal to take, capture, or kill any migratory bird, or to take any part, nest, or egg of any such birds; applies to purposeful actions, not to actions that result from otherwise lawful activities (incidental take).
Fish and Wildlife Coordination Act of 1934, 16 U.S.C. 661 et seq. Taking, Possession, Transportation, Sale, Purchase, Barter, Exportation, and Importation of Wildlife and Plants, 50 CFR Parts 10-24 Management of Fisheries Conservation Areas, 50 CFR Parts 70-71 Interagency Cooperation – Endangered Species Act of 1973, as amended, 50 CFR Part 402	Provides the basic authority for the involvement of the USFWS and state agencies to evaluate impacts of proposed projects that may result in the construction, modification, or control of a natural streams or bodies of water in excess of 10 acres in surface area.
Anadromous Fish Conservation Act of 1965, 16 U.S.C. 757 et seq. Anadromous Fish, 50 CFR 223.203 Anadromous Fisheries Conservation, Development, and Enhancement, 50 CFR Part 401	Authorizes the Secretary of the Interior to enter into agreements with States and other non-Federal entities to protect and enhance resources of anadromous fish (fish that return to rivers from the sea to spawn).
Endangered Species Act of 1973, 16 U.S.C. 1531 et seq. Taking, Possession, Transportation, Sale, Purchase, Barter, Exportation, and Importation of Wildlife and Plants, 50 CFR Parts 10-24 Interagency Cooperation – Endangered Species Act of 1973, as amended, 50 CFR Part 402	Requires Federal agencies to assess whether actions could adversely affect threatened or endangered species or their habitat.
Bald and Golden Eagle Protection Act of 1973, as amended, 16 U.S.C. 668-668d Eagle Permits, 50 CFR Part 22	Imposes criminal and civil penalties for the possession or taking of bald or golden eagles.
North American Wetlands Conservation Act of 1989, 16 U.S.C. 4401–4414	Requires the head of each Federal agency responsible for Federal lands and waters to cooperate with the Director of the USFWS to restore, protect, and enhance the wetland ecosystems and other habitats for migratory birds, fish, and wildlife within the lands and waters of the agency.
Federal Noxious Weed Act, 7 U.S.C. 28142 Noxious Weed Regulations, 7 CFR Part 360	Requires each Federal land-managing agency to establish integrated management systems to control or contain undesirable plant species targeted under cooperative agreements with State agencies.
Sikes Act of 1960, 16 USC 670a–670o Resource Management and Public Activities on Federal Lands, 43 CFR 24.4 Criteria for Designating Critical Habitat, 50 CFR 424.12	Calls for cooperation with State fish and game agencies in planning and managing wildlife habitat on Federal lands; is particularly relevant to wildlife management on the ORR, as it specifically mentions what are now lands controlled by DOE; states that the "Secretary of the Interior shall develop, with the prior written approval of the Atomic Energy Commission (AEC) [now a part of DOE], a comprehensive plan for conservation and rehabilitation programs to be implemented on public land under the jurisdiction of the Chairman" of the AEC (now the Secretary of Energy).

Law, Regulation, Order, or Other Requirement	Description
Executive Order 11990, *Protection of Wetlands* (05/24/77)	Establishes wetland protection as the official policy of all Federal agencies; directs each agency to provide leadership and "to minimize the destruction, loss or degradation of wetlands, and to preserve and enhance the natural and beneficial values of wetlands;" applies to federally undertaken, financed, or assisted construction and improvements in, or with significant impacts on, wetlands.
Executive Order 13112, *Invasive Species* (2/3/99)	Directs each Federal agency whose actions may affect the status of invasive species to take action to prevent the introduction of invasive species and promote restoration of native species and natural habitat. Establishes the National Invasive Species Council (NISC) to safeguard interests of the U.S. by preventing, eradicating, and controlling invasive species, as well as restoring ecosystems and other assets impacted by invasive species. NISC prepares and maintains a National Invasive Species Management Plan.
Executive Order 13186, *Responsibilities of Federal Agencies to Protect Migratory Birds* (01/10/01)	Requires each Federal agency whose actions have or are likely to have a measurable negative effect on migratory birds to enter into a Memorandum of Understanding with USFWS defining protective measures.
Idaho, Various Acts Regarding Fish and Game, IC, Title 36, Fish and Game, Chapter 9 – Protection of Fish, Chapter 11 – Protection of Animals and Birds, and Chapter 24 – Species Conservation	Establishes protection of wildlife from certain methods of take; establishes species management plan requirements.
Idaho Endangered Species Act, IC, Title 67, State Government and State Affairs, Chapter 8, Executive and Administrative Officers, Section 67-818 Rules for Classification and Protection of Wildlife, IDAPA 13.01.06-09	Establishes State responsibility and coordination of policy and programs related to threatened and endangered species. Establishes authority for the Idaho Fish and Game Commission to adopt rules concerning the taking of wildlife species and classification of wildlife species.
Tennessee Nongame and Endangered or Threatened Wildlife Species Conservation Act of 1974, TCA 70-8-105 Rules and Regulations for in Need of Management, Threatened, and Endangered Species, Tennessee Rules 1660-01-32	Requires consultation with responsible agency. Provides list of protected species and rules governing those species.
Tennessee Rare Plant Protection and Conservation Act of 1985, TCA 70-8-301 et seq. Rare Plant Protection and Conservation Regulations, Tennessee Rules 0400-06-02.01-07	Requires consultation with responsible agency. Provides list of protected species and rules governing those species.
South Carolina Nongame and Endangered Species Conservation Act, SC Code 50-15-10-90 Article 5, Non-Game and Endangered Species, SC Regulation 123-150 et seq.	Provides protection for State-designated endangered and threatened species in need of management; specifies the statute that it is unlawful to take indigenous species (including sea turtles, birds, fish, reptiles, amphibians, and mammals) in the State that are listed as endangered by the State.
Cultural and Paleontological Resources	
American Antiquities Act of 1906, 16 U.S.C. 431 et seq. Preservation of American Antiquities, 43 CFR Part 3	Protects prehistoric American Indian ruins and artifacts on Federal lands; authorizes the President to designate historic areas as national monuments.
Historic Sites Act of 1935, 16 U.S.C. 461 National Historic Landmarks Program, 36 CFR Part 65	Provides for the preservation of historic American sites, buildings, objects, and antiquities of national significance, and serves other purposes.

Law, Regulation, Order, or Other Requirement	Description
National Historic Preservation Act of 1966, 16 U.S.C. 470 et seq. National Register of Historic Places, 36 CFR Part 60 et seq. Curation of Federally Owned and Administered Archeological Collections, 36 CFR Part 79 Protection of Historic Properties, 36 CFR Part 800	Sets forth the procedural requirements for listing properties on the National Register of Historic Places; identifies the process for evaluating the eligibility of properties for inclusion in the National Register of Historic Places; requires consultation with the State Historic Preservation Officer prior to any action that could affect historic resources (this consultation is being accomplished for the proposed activities, as needed).
Archaeological and Historic Preservation Act of 1974, as amended, 16 U.S.C. 469 et seq.	Requires the preservation of historical and archeological data (including relics and specimens) that might otherwise be irreparably lost or destroyed as the result of Federal construction projects.
American Indian Religious Freedom Act of 1978, 42 U.S.C. 1996	Protects and preserves, for American Indians, their inherent right of freedom to believe, express, and exercise their traditional religions, including access to sites.
Archaeological Resources Protection Act of 1979, 16 U.S.C. 470aa-mm Protection of Archaeological Resources, 43 CFR Part 7	Protects archaeological resources and sites on Federal and American Indian lands and establishes the uniform definitions, standards, and procedures to be followed by all Federal land managers in providing protection for archaeological resources located on public lands and American Indian lands of the United States, including collections of prehistoric and historic material remains, and associated records, recovered under the authority of the American Antiquities Act (16 U.S.C. 431-433), the Reservoir Salvage Act (16 U.S.C. 469–469c), Section 110 of the National Historic Preservation Act (16 U.S.C. 470h-2), or the Archaeological Resources Protection Act (16 U.S.C. 470aa-mm); could apply if such resources were to be disturbed by activities associated with the proposed facilities.
Native American Graves Protection and Repatriation Act of 1990, 25 U.S.C. 3001 et seq. Native American Graves Protection and Repatriation Regulations, 43 CFR Part 10	Protects American Indian burial remains and funerary objects found on Federal or tribal land; could apply if such resources were to be disturbed by activities associated with the proposed facilities.
Executive Order 11593, *Protection and Enhancement of the Cultural Environment* (05/13/71)	Requires preservation of historic and archaeological information prior to construction activities, such as those associated with the proposed facilities.
Executive Order 13007, *Indian Sacred Sites* (05/24/96) MOU Interagency Coordination and Collaboration for the Protection of Indian Sacred Sites (2016)	Requires Federal agencies to accommodate, to the extent practicable, access to American Indian sacred sites and avoid adverse impacts on such sites.
Executive Order 13175, *Consultation and Coordination with Indian Tribal Governments* (11/06/00)	Requires consultation and coordination with American Indian Tribes prior to taking actions that affect federally recognized tribal governments.
Executive Order 13195, *Trails for America in the 21st Century* (01/18/01)	Requires Federal agencies —to the extent permitted by law and where practicable, and in cooperation with Tribes, States, local governments, and interested citizen groups— to protect, connect, promote, and assist trails of all types throughout the United States.
Executive Order 13287, *Preserve America* (03/03/03)	Promotes the protection of Federal historic properties and cooperation among governmental and private entities in preserving cultural heritage.
DOE Order 144.1, *Department of Energy American Indian Tribal Government Interactions and Policy* (Change 1, 11/06/09)	Establishes a policy committing DOE to consultation with American Indian tribal governments to solicit input on DOE issues.

Law, Regulation, Order, or Other Requirement	*Description*
DOE Policy 141.1, *Department of Energy Management of Cultural Resources* (1/28/11)	Ensures that DOE programs and field elements integrate cultural resources management into their mission and activities.
Idaho Historic Preservation Act, IC, Title 67, Chapter 46, Preservation of Historic Sites State Protocol Agreement between the Idaho State Director, BLM, and the Idaho SHPO that Implements the NHPA	Requires consultation with responsible local governing body for historic preservation.
Idaho Protection of Graves, IC, Title 27, Chapter 5	Defines permitted activities and establishes guidelines for the legal removal of human remains from Idaho gravesites by qualified archaeologists or law enforcement personnel.
Tennessee, Desecration of Venerated Objects, TCA 39-17-311	Forbids a person to offend or intentionally desecrate venerated objects, including a place of worship or burial.
Tennessee, Excavation of Areas Containing Native American Indian Human Remains, TCA 11-6-116 Native American Indian Cemetery Removal and Reburial, TN Rule 0400-9-1	Requires notification prior to excavation in areas containing human remains of Native American Indians.
South Carolina Institute of Archaeology and Anthropology, SC Code 60-13-210 Institute of Archaeology and Anthropology, SC Regulations 9-100.1 — 9-100.450	Establishes and recommends methods and standards for archaeological and anthropological research on behalf of the State.
Infrastructure	
Solid Waste Disposal Act of 1965, as amended by the Resource Conservation and Recovery Act (RCRA) of 1976 and the Energy Policy Act of 2005, 42 U.S.C. 6991 et seq. Technical Standards for and Corrective Action Requirements for Owners and Operators of Underground Storage Tanks (UST), 40 CFR Parts 280-282	Regulates construction of underground storage tanks, including for radioactive materials.
Idaho Underground Storage Tank Act, IC Title 39, Chapter 88, Health and Safety Idaho Rules Regulating Underground Storage Tank Systems, IDAPA 58.01.07	Creates standards and procedures for the regulation of underground storage tank systems.
Tennessee Petroleum Underground Storage Tank Act, TCA 68-53-101 et seq. Tennessee Underground Storage Tank Program Regulations, Tennessee Rules, 1200-1-15	Establishes a requirement for a permit prior to construction or modification of an underground storage tank.
State Underground Petroleum Environmental Response Bank Act, SC Code 44-2 South Carolina, Underground Storage Tank Control Regulations, SC Regulations R.61-92	Addresses underground storage tank installation and operation permits.
Noise	
Noise Control Act of 1972, 42 U.S.C. 4901 et seq. as amended by the Quiet Communities Act of 1978	Protects the health and safety of the public from excessive noise levels; requires Federal agencies to comply with Federal, State, and local noise abatement requirements.

Law, Regulation, Order, or Other Requirement	Description
Waste Management	
Low-Level Radioactive Waste Policy Act of 1980, 42 U.S.C. 2021 et seq. Criteria and Procedures for Emergency Access to Non-Federal and Regional Low-Level Waste Disposal Facilities, 10 CFR Part 62	Specifies that the Federal Government is responsible for the disposal of certain low-level radioactive waste, including low-level radioactive waste owned or generated by the DOE; and specifies States are responsible for the disposal of commercially generated low-level radioactive waste; pertains to waste that could be generated by the proposed activities.
Nuclear Waste Policy Act of 1982, 42 U.S.C. 10101 et seq. Disposal of High-Level Radioactive Wastes in Geologic Repositories, 10 CFR Part 60 Licensing Requirements for the Independent Storage of Spent Nuclear Fuel and High-Level Radioactive Waste, and Reactor-Related Greater than Class C Waste, 10 CFR Part 72	Establishes national program for the disposal of high-level radioactive waste and used nuclear fuel.
Byproduct Material, 10 CFR Part 962	Defines byproduct material as identified in the Atomic Energy Act, and clarifies that the hazardous portion of mixed radioactive waste is subject to RCRA.
Waste Isolation Pilot Plant Land Withdrawal Act, as amended, Public Law 102-579 DOE National Security and Military Applications of Nuclear Energy Authorization Act of 1980, Public Law 96-164, 93 Stat. 1259	Withdraws land from the public domain for the purposes of creating and operating a geologic repository in New Mexico designated as the national disposal site for defense transuranic waste. The Land Withdrawal Act also defines the characteristics and amount of waste that will be disposed of at the facility. Includes information related to the authorization basis of the WIPP facility for the disposal of contact-handled and remote-handled transuranic waste.
Solid Waste Disposal Act of 1965 as amended by the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments of 1984, 42 U.S.C. 6901 et seq. RCRA Regulations for Non-hazardous Waste, 40 CFR Parts 239-259 RCRA Regulations for Hazardous Waste, 40 CFR Parts 260-273	Establishes comprehensive management system for hazardous wastes, addressing generation, transportation, storage, treatment, and disposal; allows, per Section 3006 of RCRA (42 U.S.C. 6926), States to establish and administer permit programs with EPA approval; allows EPA to delegate primary enforcement authority to Idaho, Tennessee, and South Carolina.
Federal Facility Compliance Act of 1992, 42 U.S.C. 6961 et seq.	Waives sovereign immunity for Federal facilities under RCRA; requires DOE to conduct an inventory and develop a treatment plan for mixed wastes.
Toxic Substances Control Act of 1976, 15 U.S.C. 2601 et seq. Toxic Substances Control Act, 40 CFR Parts 700-799	Gives EPA the authority to screen and regulate new and existing chemicals to protect the public from the risks of exposure to chemicals; establishes specific provisions to address polychlorinated biphenyls, asbestos, radon, and lead-based paint.
Pollution Prevention Act of 1990, 42 U.S.C. 13101 et seq. Comprehensive Procurement Guidelines for Products Containing Recovered Materials, 40 CFR Part 247	Establishes requirement to prevent pollution by emphasizing source reduction and recycling. EPA is charged with developing measures for source reduction and evaluating regulations to promote source reduction.
DOE Order 435.1, *Radioactive Waste Management* (Change 1, 08/28/01)	Ensures that all DOE radioactive waste is managed in a manner that is protective of worker and public health and safety and the environment.
Idaho Hazardous Waste Management Act, IC Title 39, Chapter 44 Idaho Rules and Standards for Hazardous Waste, IDAPA 58.01.05	Requires proper controls for the management of solid and hazardous waste. Establishes requirements applicable to all hazardous waste management facilities in Idaho.

Law, Regulation, Order, or Other Requirement	Description
Idaho Solid Waste Facilities Act, IC Title 39, Chapter 74 Idaho Solid Waste Management Rules, IDAPA 58.01.06	Establishes requirements applicable to all solid waste and solid waste management facilities in Idaho.
Tennessee Hazardous Waste Management Act, TCA 68-212 Hazardous Waste Management, Tennessee Rules 0400-12-01	Establishes requirements for a permit to construct, modify, or operate a hazardous waste treatment, storage, or disposal facility.
Tennessee Solid Waste Management Act of 1991, TCA 68-211-101 et seq. Tennessee Solid Waste Processing and Disposal Regulations, Tennessee Rules, 1200-1-7	Establishes requirements for a permit to construct or to operate a solid waste processing or disposal facility.
South Carolina Hazardous Waste Management Act, SC Code 44-56-10-840 South Carolina Hazardous Waste Management Regulations, SC Regulations R.61-79	Regulates the generation, transportation, treatment, storage, and disposal of hazardous waste in South Carolina. Establishes requirements for a permit to construct, modify, or operate a hazardous waste treatment, storage, or disposal facility.
South Carolina Solid Waste Management Act, SC Code 44-96 South Carolina Solid Waste Management: Solid Waste Landfills and Structural Fill, SC Regulations R.61-107.19	Establishes standards to treat, store, or dispose of solid waste. Establishes requirements for a permit to construct or to operate a solid waste processing or disposal facility.
Nuclear Materials Management	
Atomic Energy Act of 1954, as amended, 42 U.S.C. 2011 et seq.	Provides fundamental jurisdictional authority to DOE and NRC over governmental and commercial use, respectively, of nuclear materials; authorizes DOE to establish standards to protect health or minimize dangers to life or property for activities under DOE jurisdiction; allows DOE to issue a series of orders to establish a system of standards and requirements that ensure safe operation of DOE facilities.
Procedural Rules for DOE Nuclear Facilities, 10 CFR Part 820	Governs the conduct of persons involved in DOE nuclear activities and, in particular, to achieve compliance with DOE nuclear safety requirements.
Nuclear Safety Management, 10 CFR Part 830	Governs the conduct of DOE contractors, DOE personnel, and other persons conducting activities (including providing items and services) that affect, or may affect, the safety of DOE nuclear facilities.
DOE Order 410.2, *Management of Nuclear Materials* (Change 1, 04/10/14)	Establishes requirements and procedures for the lifecycle management of nuclear materials within DOE.
DOE Order 425.1D, *Verification of Readiness to Start Up or Restart Nuclear Facilities* (Change 2, 10/04/19)	Establishes requirements for DOE for verifying readiness for startup of new nuclear facilities and for the restart of existing nuclear facilities that have been shut down.
DOE Order 426.2, *Personnel Selection, Training, Qualification, and Certification Requirements for DOE Nuclear Facilities* (Change 1, 07/29/13)	Establishes selection, qualification, and training requirements for management and operating contractor personnel involved in the operation, maintenance, and technical support of DOE reactors and nonreactor nuclear facilities.
DOE Order 433.1B, *Maintenance Management Program for DOE Nuclear Facilities* (Change 1, 03/12/13)	Establishes a safety management program required by 10 CFR Part 830 for maintenance and the reliable performance of structures, systems, and components that are part of the safety basis at Hazard Category 1, 2, and 3 DOE nuclear facilities.

Law, Regulation, Order, or Other Requirement	Description
DOE Policy 470.1B, *Safeguards and Security Program* (2/10/16)	Ensures that DOE efficiently and effectively meets all its obligations to protect special nuclear material, other nuclear materials, classified matter, sensitive information, government property, and the safety and security of employees, contractors, and the general public.
DOE Order 470.4B, *Safeguards and Security Program* (Change 2, 01/17/17)	Identifies roles and responsibilities for the DOE Safeguards and Security Program.
South Carolina Atomic Energy and Radiation Control Act, SC Code 13-7 et seq. Radioactive Materials, SC Regulations R.61-63	Addresses license to receive, use, possess, transfer, or dispose of radioactive material.
Human Health	
Occupational Safety and Health Act of 1970, 29 U.S.C. 651 et seq. Occupational Safety and Health Standards, 29 CFR Part 1910, 29 CFR Part 1926	Ensures worker and workplace safety, including a workplace free from recognized hazards, such as exposure to toxic chemicals, excessive noise levels, and mechanical dangers. Establishes standards to protect workers from hazards encountered in the workplace (Part 1910) and construction site (Part 1926).
Worker Safety and Health Program, 10 CFR Part 851	Creates DOE's health and safety program to control and monitor hazardous materials to ensure that workers are not being exposed to health hazards, such as toxic chemicals, excessive noise, and ergonomic stressors.
Occupational Radiation Protection, 10 CFR Part 835	Establishes radiation protection standards, limits, and program requirements for protecting workers from ionizing radiation resulting from DOE activities.
Chemical Accident Prevention Provisions, 40 CFR Part 68	Provides the list of regulated substances and thresholds, and the requirements for owners or operators of stationary sources concerning the prevention of accidental releases, and the State accidental release prevention programs approved under CAA Section 112(r).
Environmental Radiation Protection Standards for Management and Disposal of Spent Nuclear Fuel, High-Level, and Transuranic Radioactive Wastes, 40 CFR Part 191	Applies to radiation doses received by members of the public as a result of the management (except for transportation) and storage of spent nuclear fuel, transuranic, or high-level radioactive wastes.
DOE Order 420.1C, *Facility Safety* (Change 3 11/14/19)	Establishes facility and programmatic safety requirements for DOE facilities, including nuclear and explosives safety design criteria, fire protection, criticality safety, natural phenomena hazards mitigation, and the System Engineer Program.
DOE Policy 420.1, *Department of Energy Nuclear Safety Policy* (02/08/11)	Documents DOE's nuclear safety policy.
DOE Order 430.1C, *Real Property Asset Management* (Change 1, 10/04/19)	Establishes a corporate, holistic, and performance-based approach to real property life-cycle asset management that links real property asset planning, programming, budgeting, and evaluation to program mission projections and performance outcomes. To accomplish the objective, this Order identifies requirements and establishes reporting mechanisms and responsibilities for real property asset management.
DOE Order 440.1B, *Worker Protection Program for DOE (including the National Nuclear Security Administration) Federal Employees* (05/17/07; Change 2, 03/14/13)	Describes the DOE program to protect workers and reduce accidents and losses; adopts occupational safety and health standards.
DOE Order 458.1, *Radiation Protection of the Public and the Environment* (02/11/11; Change 3, 01/15/13)	Establishes requirements to protect the public and the environment against undue risk from radiation associated with radiological activities conducted under the control of DOE, pursuant to the Atomic Energy Act of 1954, as amended.

Law, Regulation, Order, or Other Requirement	Description
Transportation	
Hazardous Materials Transportation Act of 1975, 49 U.S.C. 5101 et seq. Transportation, Subchapter C, Hazardous Materials Regulations, 49 CFR Parts 171–180	Provides the U.S. Department of Transportation (DOT) with authority to protect against the risks associated with transportation of hazardous materials, including radioactive materials, in commerce. Establishes DOT requirements for classification, packaging, hazard communication, incident reporting, handling, and transportation of hazardous materials.
DOE Order 460.1D, *Hazardous Materials Packaging and Transportation Safety* (12/20/16)	Describes DOE safety requirements for the proper packaging and transportation of offsite shipments and onsite transfers of radioactive and other hazardous materials.
DOE Order 460.2A, *Departmental Materials Transportation and Packaging Management* (12/22/04)	Describes DOE requirements and responsibilities for materials transportation and packaging management to ensure the safe, secure, and efficient packaging and transportation of materials, both hazardous and nonhazardous.
DOE Order 461.1C, *Packaging and Transportation for Offsite Shipment of Materials of National Security Interest* (Change 1, 10/04/19)	Affirms that the packaging and transportation of all offsite shipments of materials of national security interest for DOE must be conducted in accordance with DOT and NRC regulations that would be applicable to comparable commercial shipments, except where an alternative course of action is identified in the Order.
DOE Order 461.2, *Onsite Packaging and Transfer of Materials of National Security Interest* (11/01/10)	Establishes safety requirements and responsibilities for onsite packaging and transfers of materials of national security interest to ensure safe use of Transportation Safeguards System (TSS), non-TSS Government- and contractor-owned and/or leased resources.
Idaho Transportation of Hazardous Waste, IC Title 18, Chapter 39 Hazardous Materials/Hazardous Waste Transportation Enforcement, IC Title 49, Chapter 22	Regulates transportation of hazardous materials/hazardous waste on Idaho highways.
Tennessee Requirements Applicable to Transfer Facilities and Permit Requirements and Standards Applicable to Transporters of Hazardous Waste, Tennessee Rules, 0400-12-01-.04	Establishes standards which apply to persons transporting hazardous waste within Tennessee.
South Carolina Hazardous Waste Management Act, Promulgation of Rules and Regulations, SC Code 44-56-30 Transportation of Radioactive Waste into or within South Carolina, SC Regulations R.61-83	Establishes the DOT regulations for the transportation, containerization, and labelling of hazardous wastes. Establishes requirements and permits for shippers, carriers and disposal facility operators for all aspects of packaging and transporting of radioactive waste material.
Environmental Justice	
Executive Order 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations* (2/11/94), as amended by Executive Order 12948 (1/30/95)	Requires each Federal agency to identify and address disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority and low-income populations.
Executive Order 13045, *Protection of Children from Environmental Health Risks and Safety Risks* (4/21/97), as amended by Executive Order 13296 (4/18/03)	Requires each Federal agency to make it a high priority to identify and assess environmental health risks and safety risks that may disproportionately affect children and to ensure that its policies, programs, activities, and standards address disproportionate environmental health or safety risks to children.
Emergency Management	
Comprehensive Environmental Response, Compensation, and Liability Act of 1980, 42 U.S.C. 9601 et seq.	Provides broad Federal authority to respond directly to releases or threatened releases of hazardous substances that may endanger public health or the environment.

Law, Regulation, Order, or Other Requirement	Description
Emergency Planning and Community Right-to-Know Act of 1986, 42 U.S.C. 11001 et seq.	Requires that Federal, State, and local emergency planning authorities be provided information regarding the presence and storage of hazardous substances and their planned and unplanned environmental releases, including provisions and plans for responding to emergency situations involving hazardous materials.
Price-Anderson Act and Amendments, 42 U.S.C. 2210 Financial Protection Requirements and Indemnity Agreements, 10 CFR Part 140	Establishes a system of financial protection for persons who may be liable for and persons who may be injured by a nuclear incident.
Oil Pollution Prevention, 40 CFR Part 112	Outlines the requirements for both the prevention of and the response to oil spills; includes requirements for Spill Prevention, Control, and Countermeasure Plans, and for Facility Response Plans.
Designation, Reportable Quantities, and Notification, 40 CFR 302	Requires facilities to notify Federal authorities of spills or releases of certain hazardous substances designated under CERCLA and CWA; specifies the quantities of hazardous substance spills/releases that must be reported to authorities and delineate the notification procedures for a release that equals or exceeds the reportable quantities.
Emergency Planning and Notification, 40 CFR Part 355	Describes emergency planning provisions for facilities in possession of an extremely hazardous substance in a quantity exceeding a specified threshold quantity; could apply to substances to be used in the proposed facilities.
Hazardous Chemical Reporting: Community Right-To-Know, 40 CFR Part 370	Establishes reporting requirements for providing the public with important information on the hazardous chemical inventories in their communities.
Toxic Chemical Release Reporting: Community Right-To-Know, 40 CFR Part 372	Establishes reporting requirements for providing the public with important information on the release of toxic chemicals in their communities.
Radiological Emergency Planning and Preparedness, 44 CFR Part 351	Requires emergency plans for DOE nuclear facilities; defines additional DOE responsibilities for assisting the Federal Emergency Management Agency.
Executive Order 12580, *Superfund Implementation* (1/23/87)	Delegates responsibility to a Federal agency for hazardous substance response activities when the release is from, or the sole source of the release is located in, any facility or vessel under the control of that agency.
Executive Order 12656, *Assignment of Emergency Preparedness Responsibilities* (11/18/88)	Ensures that DOE has sufficient capabilities to meet defense and civilian needs during a national emergency; establishes DOE as the lead agency responsible for energy-related emergency preparedness and for assuring the security of DOE nuclear materials and facilities.
Executive Order 12856, *Federal Compliance with Right-to-Know Laws and Pollution Prevention Requirements* (8/3/93)	Requires all Federal facilities to comply with the provisions of EPCRA; requires reports to be submitted pursuant to EPCRA, Sections 302–303 (Planning Notification), 304 (Extremely Hazardous Substances Release Notification), 311–312 (Material Safety Data Sheet/Chemical Inventory), and 313 (Toxic Chemical Release Inventory Reporting).
DOE Order 151.1D, Comprehensive Emergency Management System (10/4/19)	Establishes policy; assigns roles and responsibilities; provides the framework for developing, coordinating, controlling, and directing DOE's emergency management system (i.e., emergency planning, preparedness, response, recovery, and readiness assurance).
DOE Order 153.1, Departmental Radiological Emergency Response Assets (06/27/07)	Establishes requirements and responsibilities for the DOE national radiological emergency response assets and capabilities and Nuclear Emergency Support Team assets.

Law, Regulation, Order, or Other Requirement	Description
Standards and Procedures for Application of Risk Based Corrective Action at Petroleum Release Sites, IDAPA 58.01.24	Establishes standards and procedures to determine whether and what risk-based corrective action measures should be applied to petroleum release sites.
South Carolina Regulations as to Removal of Discharges of Pollutants, SC Code 48-43-550 State of South Carolina Contingency Plan For Spills and Releases of Oil & Hazardous Substances	Regulations relating to the cleanup and removal of discharges of pollutants into the waters or onto the coasts of the State.

CFR = *Code of Federal Regulations*; CERCLA = Comprehensive Environmental Response, Compensation, and Liability Act; DOT = Department of Transportation; EPCRA= Emergency Planning and Community Right-to-Know Act; EPA = U.S. Environmental Protection Agency; IC = Idaho Code; IDAPA = Idaho Administrative Procedures Act; NAAQS = National Ambient Air Quality Standards; NEPA = National Environmental Policy Act; NESHAP = National Emission Standards for Hazardous Air Pollutants; RCRA = Resource Conservation and Recovery Act; SCDHEC = South Carolina Department of Health and Environmental Control; TCA = Tennessee Code Annotated; TDEC = Tennessee Department of Environment and Conservation; U.S.C. = *United States Code*; USFWS = U.S. Fish and Wildlife Service; WIPP = Waste Isolation Pilot Plant.
Source: Information is primarily from DOE 1999a, 2008a, 2011c, 2015a, 2016a.

7.2 Applicable Permits

Implementation of any of the action alternatives proposed in this VTR EIS would require compliance with existing environmental permits and/or modifications to those permits, and could require acquisition of new permits. This section identifies existing relevant environmental permits for DOE's activities, as well as potential new permits or permit modifications necessary to implement the proposed alternatives at each potential location. **Table 7–2** summarizes the relevant environmental permits for air, water, and hazardous waste for each of the candidate locations. Sections 7.2.1 through 7.2.3 provide more details on the permits potentially required for INL, Oak Ridge National Laboratory (ORNL), and SRS, respectively.

All of the candidate locations currently have existing air permits, stormwater discharge permits, industrial wastewater discharge permits, and hazardous waste permits. Communication and coordination with applicable regulatory agencies, including discussion of site-specific and facility-specific permitting requirements (application for new permits or modification to existing permits), would be required at the selected site.

7.2.1 Idaho National Laboratory

INL holds environmental permits, including those for air quality, water quality, and hazardous waste. The *Idaho National Laboratory Site Environmental Report Calendar Year 2018* describes existing permits for INL in more detail (INL 2019c:2.1–2.18). In general, IDEQ is an EPA-authorized State agency. However, regulation of radionuclide air emissions at DOE facilities, as prescribed in Title 40 of the CFR, Part 61, Subpart H, has not been delegated to Idaho and is administered by EPA.

Air – Under EPA regulations, the State of Idaho has been delegated authority under CAA to maintain the National Ambient Air Quality Standards (40 CFR Part 52, Subpart N), to issue Prevention of Significant Deterioration (PSD) permits (40 CFR 52.683), to enforce performance standards for new stationary sources, and to issue permits to construct and operate. Construction or modifications of facilities that are regulated under the IDEQ, Rules for the Control of Air Pollution in Idaho (IDAPA 58.01.01), are subject to a preconstruction review and permitting under the program (IDEQ 2019). To date, the State of Idaho does not have authority delegated from EPA to administer the National Emission Standards for Hazardous Air Pollutants (NESHAP) Subpart H Program (radionuclide emissions); that authority remains with EPA (40 CFR 61.90–61.97) (EPA 2019b).

Table 6–1. Summary of Relevant Environmental Permits

Permit	*INL – MFC (Idaho)*	*ORR – ORNL (Tennessee)*	*SRS – K Area (South Carolina)*
Air			
Nonradioactive Emissions			
Existing Permit	Yes – State Issued	Yes – State Issued	Yes – State Issued
New Permit Application	Yes – submitted through the construction air permit process	Yes – submitted through the construction air permit process	Yes – submitted through the construction air permit process
Permit Modification	Yes	Yes	Yes
Radioactive Emissions			
Existing Permit	Yes – EPA Issued	Yes – State Issued	Yes – State Issued
New Permit Application	No	No	No
Permit Modification	Yes	Yes	Yes
Water			
CWA Section 404 – State Aquatic Resources Alteration			
Existing Permit	NA – no alteration of surface water bodies or wetlands	No	NA – no alteration of surface water bodies or wetlands
New Permit Application		Yes – USACE/State Issued	
Permit Modification		NA	
CWA Section 402 – General Construction Stormwater			
Existing Permit	Yes – EPA Issued	Yes – State Issued	Yes – State Issued
New Permit Application	No	No	No
Permit Modification	Yes	Yes	No
CWA Section 402 – National Pollutant Discharge Elimination System			
Existing Permit	No [a]	Yes – State Issued	Yes – State Issued
New Permit Application	No	No	No
Permit Modification	No	Yes	Yes
Wastewater Reuse			
Existing Permit	Yes – State Issued	NA – No wastewater reuse or land application	NA – No wastewater reuse or land application
New Permit Application	No		
Permit Modification	Yes		
Hazardous Waste [b]			
Existing Permit	Yes – State Issued	Yes – State Issued	Yes – State Issued
New Permit Application	No	No	No
Permit Modification	Yes	Yes	Yes [c]

USACE = U.S. Army Corps of Engineers; CWA = Clean Water Act; EPA = U.S. Environmental Protection Agency; INL = Idaho National Laboratory; MFC = Materials and Fuels Complex; NA = not applicable; ORNL = Oak Ridge National Laboratory; ORR = Oak Ridge Reservation; SRS = Savannah River Site; TSD = treatment, storage, and disposal.

[a] On June 5, 2018, the EPA Administrator approved the application by the State of Idaho to administer and enforce the Idaho Pollutant Discharge Elimination System (IPDES) program. Idaho administration of the NPDES program is expected to be fully implemented by 2021 (EPA 2019c). However, there are no navigable waters near MFC.

[b] Hazardous waste permits are also applicable to the hazardous components of mixed radioactive wastes.

[c] Hazardous and mixed waste generation at the reactor fuel facility may trigger the need to modify the existing SRS hazardous waste permit if a hazardous or mixed waste storage pad was needed in K Area, otherwise waste would be managed under the conditions of a large quantity generator.

The Idaho Air Quality Program is primarily administered through the permitting process. Potential sources of air pollutants are evaluated against regulatory criteria to determine if the source is specifically exempt from permitting requirements or if the source's emissions are significant or insignificant. If emissions are determined to be significant, several actions may occur: (1) permitting determinations may be made to demonstrate that the project or process is either below emission thresholds or listed as exempted source categories in State of Idaho regulations allowing self-exemption or (2) an application for a permit to construct may be submitted. If emissions are deemed major under PSD regulations, then a PSD analysis must be completed. If not deemed significant per PSD regulations, an application for only a permit to construct without the additional PSD modeling and analyses is needed (DOE 2011d).

The operation of INL includes sources that emit criteria and hazardous air pollutants and require a permit to construct (PTC), as outlined in IDAPA 58.01.01.200–228. These sources currently operate under a PTC (PTC #P-2015.0023) with a facility emissions cap. This PTC limits facility-wide emissions to below levels that would require a Title V operating permit and rescinds the previous Title V permit that regulated emission sources at the INL Site (IDEQ 2018:3).

Water – On June 5, 2018, EPA approved the application by the State of Idaho to administer and enforce the Idaho Pollutant Discharge Elimination System (IPDES) program. Transitioning regulatory authority from EPA to Idaho is being phased in over a number of years with Idaho administration of the IPDES program expected to be fully implemented by 2021 (EPA 2019c).

INL complies with two Clean Water Act (CWA) permits through the implementation of procedures, policies, and best management practices. These permits are (1) NPDES general permit for stormwater discharges from construction activities, and (2) discharges from Idaho Falls facilities to the city of Idaho Falls–owned treatment works. The latter permit is not discussed further in this VTR EIS because the Proposed Action does not involve changes in DOE activities in Idaho Falls. INL obtains coverage under the general permit for individual construction projects. Construction of new facilities or modifications to existing facilities would require the development of written stormwater discharge plans. The permit would then need to be modified to include the additional facilities. Only construction projects that are determined to have a reasonable potential to discharge pollutants to regulated surface water are required to have a stormwater pollution prevention plan (SWPPP) (DOE 2011d). Because wastewater would not be discharged to natural surface water bodies at the INL Site, an NPDES/IPDES discharge permit would not be required.

To protect human health and prevent pollution of surface- and groundwaters, the State of Idaho requires a wastewater reuse permit for the land application of wastewater. The IDEQ issues the reuse permits in accordance with IDAPA 58.01.17 "Recycled Water Rules," IDAPA 58.01.16 "Wastewater Rules," and IDAPA 58.01.11 "Ground Water Quality Rule." All wastewater reuse permits incorporate water quality standards for groundwater protection. INL has a wastewater reuse permit to land apply wastewater at the Material and Fuels Complex (MFC) Industrial Waste Ditch and Industrial Waste Pond (INL 2019c:2.10). It is possible the MFC wastewater reuse permit would need to be modified to accommodate discharges from the new VTR facilities.

Hazardous/Mixed Waste – The State of Idaho is authorized by EPA to administer its own Resource Conservation and Recovery Act (RCRA) program and is responsible for reviewing applications and issuing permits under the IDEQ, Rules and Standards for Hazardous Waste (IDAPA 58.01.05). The IDEQ has issued a RCRA permit for INL (DOE 2011d).

When IDEQ receives any information (e.g., information received during facility inspection or in a permit submission), IDEQ may determine if there exists one or more of the causes for modification or revocation and reissuance, or both. If cause exists, IDEQ may modify or revoke and reissue the permit accordingly and may request an updated application, if necessary (DOE 2011d). Hazardous and mixed waste

generation at VTR and associated facilities may trigger the need to modify the existing INL hazardous waste permit if the waste would be stored for more than 90 days.

Other Agreements – The DOE and the U.S. Fish and Wildlife Service (USFWS) established the *Candidate Conservation Agreement for Greater Sage-grouse on INL* (CCA) (DOE-ID & USFWS 2014). DOE and USFWS continue to collaborate on sage-grouse protection at the INL Site. In compliance with the CCA, pre- and post-construction surveys are performed to establish the amounts of sagebrush restoration and other native revegetation efforts needed to rehabilitate disturbed areas.

DOE's *Programmatic Spent Nuclear Fuel Management and Idaho National Engineering Laboratory Environmental Restoration and Waste Management Programs Environmental Impact Statemen*t (DOE 1995) (hereafter referred to as the Programmatic SNF EIS) analyzed alternatives for the management of existing and reasonably foreseeable inventories of DOE's spent nuclear fuel (SNF). The June 1, 1995, Record of Decision (ROD) for the Programmatic SNF EIS (60 FR 28680) stated in part that DOE would consolidate nonaluminum-clad SNF at the Idaho National Engineering and Environmental Laboratory (now INL), and would consolidate the management of its aluminum-clad SNF at SRS.

The Federal Facility Agreement/Consent Order (FFA/CO) and Site Treatment Plan was signed by the State of Idaho on November 1, 1995, and is updated annually (INL 2019c:2.4, 2.7, 2.9). The FFA/CO required preparation of a site treatment plan for the treatment of mixed waste stored or generated at the INL Site. The INL Site Treatment Plan would likely be updated to reflect construction and operation of the VTR and associated facilities.

On October 16, 1995, DOE, the U.S. Navy, and the State of Idaho entered into an agreement (also known as the Idaho Settlement Agreement [ISA]) that guides management of SNF and radioactive waste at the INL Site. The ISA limits shipments of DOE and Naval SNF into the State and sets milestones for shipments of SNF and radioactive waste out of the State (INL 2019c:2.7). In a 2019 *Supplemental Agreement Concerning Conditional Waiver of Sections D.2.e and K.1 of 1995 Settlement Agreement* between DOE and the State of Idaho (DOE-ID & Idaho 2019), Idaho allowed receipt of a specific quantity of commercial power SNF at the INL Site and established terms and conditions under which DOE could resume and plan for additional shipments of commercial SNF pursuant to a 2011 Memorandum of Agreement.

On February 4, 2020, the *Agreement Concerning Handling of Spent Nuclear Fuel Generated by the Advanced Test Reactor* was signed between DOE-Idaho and the State of Idaho (DOE-ID & Idaho 2020). The agreement allows Advanced Test Reactor (ATR) SNF to be stored for 6 years in the ATR Operating Canal for thermal cooling.

SNF generated by the operation of VTR would be managed in accordance with applicable laws and agreements.

7.2.2 Oak Ridge National Laboratory

ORNL holds environmental permits, including those for air quality, water quality, and hazardous waste. The *Oak Ridge Reservation Annual Site Environmental Report 2018* contains a more detailed description of existing permits for ORNL (ORO 2019:5-17, 5-18).

Air – Airborne discharges from DOE facilities, both radioactive and nonradioactive, are subject to regulation by EPA and TDEC. The most recent sitewide Title V Major Source Operating Permit (571359) was issued in October 2018. The Title V Major Source Operating Permit (569768) for the Central Exhaust Stack (Building 3039) was renewed in September 2015. In addition, Isotek has a Title V Major Source Operating Permit (568276) for the Radiochemical Development Facility (Building 3019 Complex) (ORO 2019:5-20, 5-28).

Permits to construct and operate new nonradiological air emissions sources would be required. These new sources would potentially include the vents for any building heating systems, laboratory hood vents (nonradioactive use), and a concrete batch plant. These permits would include operating conditions and emissions limitations for air pollutants. Permits for construction of new radioactive emission sources and modification of the existing NESHAP permit for radionuclide emissions would be required for the proposed VTR and associated facilities. As described in 40 CFR 61.96, if the effective dose equivalent caused by all emissions from facility operations is projected to be greater than one percent of the 10 millirem per year NESHAP standard, an application for approval to construct under 40 CFR 61.07 would have to be filed (DOE 1999a:6-4).

Water – Section 404 of the CWA requires the issuance of a Section 404 permit for discharge of dredge or fill material into the waters of the United States. This includes the filling of wetland areas by construction projects. The authority to implement these requirements and issue the permits has been given to the U.S. Army Corps of Engineers (USACE). In addition, in Tennessee, TDEC requires an Aquatic Resource Alteration Permit to alter the waters of the State. When a Federal construction project would result in the filling of a wetland area, the issuance of a Section 404 permit is usually contingent upon approval of a wetlands mitigation plan by USACE (DOE 1999a:6-6, 6-7). A USACE Section 404 permit and a TDEC Aquatic Resource Alteration Permit would likely be required for construction of the VTR and associated facilities at ORR.

EPA has delegated authority for implementation and enforcement of the NPDES program to the State of Tennessee. A Tennessee NPDES construction general permit covering stormwater discharges from construction activities would be required for construction of the proposed facilities at ORR (ORO 2019:5-69). An NPDES general permit for point-source stormwater discharges associated with industrial activity would be required for operation of the proposed facilities. The ORNL SWPPP would be revised to include the new stormwater sources (DOE 1999a:6-6).

The NPDES permit (TN0002941) issued to DOE for ORNL, includes requirements for discharging wastewaters from the two ORNL onsite wastewater treatment facilities and from more than 150 outfalls, and for the development and implementation of a Water Quality Protection Plan. The two wastewater treatment systems provide appropriate treatment of various research and development (R&D), operational, and domestic wastewaters generated by ORNL staff and activities (ORO 2019:5-20, 5-51, 5-54). ORNL submitted an application for NPDES permit renewal in 2018 and received the permit on June 1, 2019 (TDEC 2020a). Construction and operation of the VTR and associated facilities would likely require modification of the existing NPDES permit.

Hazardous/Mixed Waste – TDEC has been delegated authority by EPA to implement the Hazardous Waste Program; EPA retains an oversight role. In 2018, DOE and its contractors at ORNL were jointly regulated as a "large quantity generator of hazardous waste" because, collectively, they generated more than 1,000 kilograms of hazardous waste in at least one calendar month during 2018. ORNL holds three permits for treatment and storage of hazardous waste (TNHW-134, TNHW-145, and TNHW-178) (ORO 2019:5-21–5-23; TDEC 2019a).

A TDEC permit is required for facilities that store hazardous waste on site for more than 90 days, treat it, or dispose of it. The construction and operation of the VTR and associated facilities would generate small quantities of hazardous waste and mixed waste. Hazardous and mixed waste generated at VTR and associated facilities may trigger the need to modify the existing ORNL hazardous waste permit, if it would be stored for more than 90 days.

Other Agreements – An interagency agreement under Section 120(c) of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), known as the ORR Federal Facility Agreement (FFA), was effective in 1992 among EPA, TDEC, and DOE. The agreement establishes the

procedural framework and schedule for developing, implementing, and monitoring remedial actions on ORR (and ORNL) in accordance with CERCLA. The agreement lists all of the sites/areas that will be investigated, and possibly undergo remediation, under CERCLA (DOE 2008a:10-34). The Site Treatment Plan, prepared in accordance with the ORR FFA, would likely be updated to reflect construction and operation of the VTR and associated facilities.

On September 26, 1995, TDEC issued a Commissioner's Order, requiring compliance with the Site Treatment Plan for Mixed Wastes (TDEC 1995). The latest version of the *Site Treatment Plan for Mixed Wastes on the U.S. Department of Energy Oak Ridge Reservation* (DOE-OR 2018) provides overall schedules for achieving compliance with RCRA storage and treatment requirements for mixed waste at ORR. DOE provides TDEC with annual updates to the information in the Site Treatment Plan. If ORNL were selected as the location for the VTR and associated facilities, DOE would include any mixed transuranic (TRU) waste and mixed low-level radioactive waste associated with operation of the proposed facilities in a future update to the Site Treatment Plan.

7.2.3 Savannah River Site

SRS holds environmental permits, including those for air quality, water quality, and hazardous waste. The *Savannah River Site Environmental Report for 2018* contains a more detailed description of existing permits for SRS (SRNS 2019a:3-8–3-22).

Air – EPA has delegated regulatory authority for all types of air emissions to SCDHEC. Air emissions from SRS facilities, including both radioactive and nonradioactive air pollutant emissions, are regulated under the SRS air quality operating permit, issued under Title V of the Clean Air Act (CAA) (42 U.S.C. § 7401 et seq.) and administered by SCDHEC. Under the CAA, SRS is considered a "major source" of nonradiological air emissions and, therefore, falls under the CAA Part 70 Operating Permit Program. The current sitewide CAA Air Quality Permit (TV-0080-0041) expired on March 31, 2008. SRS submitted a complete renewal application of the current permit prior to the expiration date. SCDHEC granted an application shield, effective on September 21, 2007, allowing SRS to continue operating under the expired permit (SRNS 2019a:3-11, 3-12). Changes resulting from reactor fuel activities could necessitate a construction permit and modifications to the Title V permit. The Ameresco Federal Solutions, Inc. ("Ameresco") Biomass Facilities have a separate CAA Air Quality Permit (SRNS 2019a:3-11, 3-12).

Water – Permits under CWA Section 404 are required when work would be conducted in waters of the United States or in a wetland area. Installation of a reactor fuel capability in an existing building in K Area is not expected to require Section 404 permitting.

Wastewater discharges at SRS are regulated by four permits under the NPDES Program, CWA (33 U.S.C. § 1251 et seq.) program administered by SCDHEC under authority delegated by EPA:

- General Permit for Stormwater Discharges from Construction Activities (SCR100000)
- General Permit for Storm Water Discharges Associated with Industrial Activities (Except Construction) (SCR000000)
- Permit for Discharge to Surface Waters – D-Area (SC0047431)
- Permit for Discharge to Surface Waters – Other Areas (SC0000175)

SCDHEC has issued a General Permit for Stormwater Discharges from Construction Activities that are "Associated with Industrial Activity" (Permit No. SCR100000). Installation of the reactor fuel capability in K Area, could involve activities outside existing buildings (e.g., laydown areas, construction trailers, parking). Stormwater from these areas, would be managed under the SRS general construction stormwater permit. An approved plan would be needed that includes erosion control and pollution prevention measures to be implemented for construction activities.

SCDHEC has issued a General Permit for Storm Water Discharges Associated with Industrial Activities (Permit No. SCR000000), authorizing stormwater discharges to the waters of the State of South Carolina in accordance with effluent limitations, monitoring requirements, and conditions set forth in the permit. This permit requires preparation and submittal of a SWPPP for all new and existing point source discharges associated with industrial activity. Accordingly, DOE has developed a SWPPP for stormwater discharges at SRS. The SRS SWPPP might need to be revised to include pollution prevention measures to be implemented for reactor fuel capability operations (DOE 2002b:7-11).

The NPDES permit includes 28 industrial wastewater outfalls across SRS (SRNS 2019a:3-14, 3-15). When SCDHEC receives a request for an NPDES permit modification, it may modify and reissue the permit accordingly and may request an updated application, if necessary. When a permit is modified, only the conditions subject to modification are reopened (DOE 2011d:5-28). Operation of the reactor fuel capability in K Area could require modification of the existing NPDES permit.

In 2018, SRS held seven other Clean Water Act related permits (SRNS 2019a:3-14):

- Land Application Permit (ND0072125)
- General Permit for Utility Water Discharges (SCG250000)
- General Permit for Discharges from Application of Pesticides (SCG160000)
- General Permit for Vehicle Wash Water Discharges (SCG750000)
- General Wastewater Construction Permit (SCG580000)
- General Construction Permit for Water Supply Distribution Systems (151218)
- General Permit for Land Disturbing Activities at SRS

As described Chapter 2 and Appendix B, installation and operation of the reactor fuel capability in K Area would not result in the land application of wastewater. Therefore, modifications to the Land Application Permit (ND0072125) would not be required. In addition, installation and operation of the reactor fuel capability in K Area is not likely to result in substantial changes to: utility water discharges; discharges from application of pesticides; vehicle wash water discharges; wastewater systems; water supply distribution systems; and land-disturbing activities. Therefore, it is unlikely that substantial modifications to these six General Permits would be needed.

In addition to the environmental permits discussed above, groundwater withdrawal at SRS is regulated by a permit issued under the South Carolina Groundwater Use and Reporting Act of 2000. SRS exceeds the permitting and reporting threshold of 3 million gallons of withdrawal from wells under common ownership. If the feedstock preparation option, the fuel fabrication option, or both are established at SRS, the water needs of the VTR project would be evaluated relative to the permit conditions and a revision to the permit pursued if needed.

Hazardous/Mixed Waste – The EPA authorizes SCDHEC to regulate hazardous waste and the hazardous components of mixed waste. SRS holds a RCRA hazardous waste permit issued by SCDHEC (SRNS 2019a:3-9). SRS's hazardous waste permit is for the storage and treatment of hazardous waste, mixed low-level radioactive waste, and mixed TRU waste in E-Area. The remainder of SRS manages hazardous and mixed waste as a large quantity generator.

Other Agreements – The 1993 FFA for SRS, a tri-party agreement between DOE, EPA, and SCDHEC, integrates CERCLA and RCRA requirements to achieve a comprehensive remediation strategy and to coordinate administrative and public participation requirements. SRS conducts remediation and closure activities identified in the FFA in accordance with applicable Federal and State regulations. SRS has 515 waste units subject to the FFA, including RCRA/CERCLA units, site evaluation areas, and facilities covered by the SRS RCRA permit. At the end of fiscal year 2018, SRS had completed the surface and

groundwater cleanup of 408 of these units and was in the process of remediating an additional 10 units (SRNS 2019a:3-3).

On September 20, 1995, SCDHEC approved the Site Treatment Plan for SRS. SCDHEC issued a consent order, signed by DOE, requiring compliance with the plan on September 29, 1995. The Site Treatment Plan provides overall schedules for achieving compliance with RCRA storage and treatment requirements for mixed waste at SRS. DOE provides SCDHEC with annual updates to the information in the SRS Site Treatment Plan. If SRS were selected as the location for reactor fuel production, DOE would include any mixed TRU or low-level radioactive waste associated with operation of the proposed facility that cannot meet the 1-year storage limitation in a future update to the SRS Site Treatment Plan.

In keeping with U.S. nonproliferation policies and a prior agreement with the Russian Federation[1] to reduce the availability of material that is readily usable in nuclear weapons, DOE, including the semiautonomous National Nuclear Security Administration (NNSA), is engaged in a program to disposition U.S. surplus weapons-usable plutonium (referred to in this EIS as "surplus plutonium"). Surplus plutonium includes pit[2] and non-pit[3] plutonium that is no longer needed for U.S. national security or programmatic purposes. In the 2000 ROD (65 FR 1608) and 2003 amended ROD (68 FR 20134) for the Surplus Plutonium Disposition Environmental Impact Statement (SPD EIS) (DOE/EIS-0283), DOE decided to convert 34 metric tons of surplus plutonium into mixed oxide (MOX) fuel at a MOX Fuel Fabrication Facility (MFFF) that was to be constructed and operated at SRS (DOE 2015a:1-1, 1-9).

Because of the high cost of the MFFF, NNSA began to assess alternative strategies for plutonium disposition. In April 2014, NNSA identified an alternative strategy that it believed could significantly reduce the life-cycle cost of surplus plutonium disposition. Under this strategy, referred to as dilute and dispose, NNSA would convert surplus metal plutonium to plutonium oxide, which could then be diluted by mixing it with inert material to inhibit plutonium recovery and prevent its future use in weapons, and packaged as TRU waste for permanent disposal at the Waste Isolation Pilot Plant (WIPP) facility.[4] In May 2018, DOE notified Congress of its decision to cancel MFFF construction, and in October 2018, DOE issued a notice of termination of the contract for the MFFF, leaving the dilute and dispose strategy as its preferred disposition strategy (GAO 2019:4, 5).

In a 2016 ROD (81 CFR 19588) for the *Surplus Plutonium Disposition Supplemental Environmental Impact Statement* (DOE/EIS-0283-S2) (DOE 2015a), NNSA decided to disposition 6 metric tons of non-pit plutonium by preparing the plutonium material as TRU waste for disposal at the WIPP facility. Non-pit plutonium containers are to be opened in an existing glovebox or newly constructed glovebox capability in HB Line or K-Area at SRS. Plutonium metal is to be converted to oxide. Plutonium oxide then will be

[1] On September 1, 2000, the Agreement Between the Government of the United States and the Government of the Russian Federation Concerning the Management and Disposition of Plutonium Designated as No Longer Required for Defense Purposes and Related Cooperation (referred to as "the PMDA") (USA and Russia 2000) was signed. The PMDA (and its 2010 Protocol) calls for each country to dispose of no less than 34 metric tons of plutonium in forms unusable for nuclear weapons. The Russian Federation unilaterally suspended implementation of the PMDA in October 2016 (IPFM 2016). However, the United States remains committed to the safe and secure disposition of 34 metric tons of surplus plutonium, so it can never again be used for nuclear weapons (DOS 2020).

[2] The plutonium was made by the United States in nuclear reactors for use in nuclear weapons. A pit is the central core of a primary assembly in a nuclear weapon and is typically composed of plutonium metal (mostly plutonium-239), enriched uranium, or both, and other materials. Most surplus pits are currently stored at the Pantex Plant near Amarillo, Texas.

[3] Non-pit plutonium may exist in metal or oxide form, and may be combined with other materials that were used in the process of manufacturing plutonium for use in nuclear weapons or related R&D activities. Most surplus non-pit plutonium is currently stored at SRS.

[4] The end state (after both dilution and emplacement at the WIPP facility) of the dilute and dispose process would introduce sufficient chemical and physical barriers to practical recovery of the material to meet non-proliferation objectives (i.e., deterring future recovery), thus meeting the intent of the PMDA to prevent plutonium recovery and reuse.

repackaged into suitable containers, blended with inert material, and packaged as TRU waste for disposal at the WIPP facility. In a 2020 amended ROD (85 FR 53350), NNSA announced its decision to amend the 2003 decision (68 FR 20134) and use the dilute and dispose method to disposition up to an additional 7.1 metric tons of non-pit plutonium as TRU waste at the WIPP facility. Conversion of metal to oxide may occur at SRS or LANL. In this amended ROD, NNSA decided to perform the repackaging, blending, and packaging for disposal in an existing single glovebox plus newly installed gloveboxes in K Area.

SRS stores substantial quantities of surplus plutonium pending disposition. The Bob Stump National Defense Authorization Act for fiscal year 2003[5] required DOE to prepare a plan to produce MOX reactor fuel[6] at an average rate of at least 1 metric ton per year. As subsequently amended, the law provides that if DOE did not meet this 1 metric ton production objective by January 1, 2014, it was required to remove 1 metric ton of defense plutonium from South Carolina by January 1, 2016. In December 2017, the court ordered DOE to remove 1 metric ton of plutonium from South Carolina by 2020. In response, DOE moved 1 metric ton of plutonium from SRS to other DOE facilities by August 2019. DOE is required by statue to remove additional amounts of defense plutonium or defense plutonium material (50 U.S.C. § 2566) (GAO 2019:19, 20). The statute also provides for economic and impact assistance payments under certain circumstances if sufficient progress is not made on material removal. The State of South Carolina brought suit to collect on those payments. On August 31, 2020, DOE and the State of South Carolina signed a settlement agreement with respect to the State's lawsuit and the ongoing removal of 9.5 metric tons of plutonium from the State. The settlement agreement provides an upfront payment of $600 million to the State of South Carolina and allows DOE more time (through 2036) to safely remove the plutonium from the State without the threat of lawsuits (DOE 2020f).

7.3 Consultations

Consultations with other Federal, State, and local agencies and federally recognized American Indian tribal governments are usually conducted prior to the disturbance of any land and are usually related to biotic, cultural, or American Indian resources. Certain laws, such as the Endangered Species Act (ESA), Fish and Wildlife Coordination Act, Migratory Bird Treaty Act (MBTA), and National Historic Preservation Act (NHPA), require consultation and coordination by DOE with other governmental entities, including other Federal agencies, State and local agencies, and federally recognized American Indian governments. In addition, the DOE American Indian and Alaska Native Government Policy requires DOE to consult with any American Indian or Alaska Native Tribal Government with regard to any property to which the Tribe attaches religious or cultural importance that might be affected by a DOE action.

Biotic resource consultations generally pertain to the potential for activities to disturb sensitive species, migratory birds, or their habitats. Cultural resource consultations relate to the potential for disruption of important historic resources or archaeological sites. American Indian consultations are concerned with the potential for impacts on any rights and interests, including the disturbance of ancestral American Indian sites and sacred sites, traditional and religious practices of American Indians, and natural resources of importance to American Indians.

DOE consults with the U.S. Fish and Wildlife Service (USFWS) and appropriate State regulators, as required by Section 7(a)(2) of the ESA, the Bald and Golden Eagle Protection Act, the MBTA, and State laws; and appropriate State Historic Preservation Offices, as required by Section 106 of NHPA. This section identifies the consultations needed to implement the proposed alternatives at each potential location. **Table 7–3** lists those organizations consulted for this EIS.

[5] Pub. L. No. 107- 314, § 3182, 116 Stat. 2458, 2747 (2002) (codified as amended at 50 U.S.C. § 2566).
[6] Reactor fuel containing plutonium-239 as the primary fissile material.

Table 6–2. Consultations for this VTR EIS

Site/Subject	*Addressee (Date of Letter)*
Idaho National Laboratory	
Ecological Resources Consultations	None anticipated; no species or habitat protected under Federal law would be disturbed. Existing agreements and controls provide protection of State and locally sensitive species.
Cultural Resources Consultations	DOE-ID will send a complete cultural resource report to the Idaho State Historic Preservation Officer reporting the results of the 2019/2020 cultural survey conducted on the VTR project site.
American Indian Consultations	Consultation with the Shoshone-Bannock Heritage Tribal Office was initiated when planning the cultural survey for the project. The Heritage Tribal Office has been informed regarding survey results and the determination of project effect. A copy of the report will be submitted to the Heritage Tribal Office.
Oak Ridge National Laboratory	
Ecological Resources Consultations	If the ORNL VTR Alternative were selected, DOE would consult with the USFWS Tennessee Ecological Services Field Office under Section 7 Interagency Cooperation regarding potential impacts to federally listed species protected under the ESA. Additionally, DOE would consult with the TWRA and/or TDEC regarding State-listed species of special concern. For aquatic resources, additional consultations required could include wetland delineations (USACE 1987), stream evaluations (TDEC 2019c), and hydrologic determinations of currently unclassified channels and wet weather conveyances (TDEC 2020b). Any potential ETW will require additional assessment using the Tennessee Rapid Assessment Method, as required by the TDEC.
Cultural Resources Consultations	If the ORNL VTR Alternative were selected, DOE would consult with Tennessee SHPO prior to any land-disturbing activities.
American Indian Consultations	If the ORNL VTR Alternative were selected, DOE would consult with the Eastern Band of the Cherokee Indians and the Cherokee Nation of Oklahoma prior to any land-disturbing activities.
Savannah River Site	
Ecological Resources Consultations	None anticipated [a]
Cultural Resources Consultations	None anticipated [a]
American Indian Consultations	None anticipated [a]

DOE-ID = DOE Idaho Operations Office; ESA = Endangered Species Act; ETW = Exceptional Tennessee Waters; SHPO = State Historical Preservation Officer; TDEC = Tennessee Department of Environment and Conservation; TWRA = Tennessee Wildlife Resources Agency; USFWS = U.S. Fish and Wildlife Service.

[a] Consultations are not expected to be needed at SRS because construction/modification would be internal to buildings in K Area and no new land disturbance is expected.

7.3.1 Idaho National Laboratory

Ecological Resources Consultations – Federally listed species are protected under the ESA (16 USC 1532 et seq.) as administered by USFWS. Land-clearing activities resulting in temporary and permanent impacts within the proposed action area at the INL Site are not anticipated to affect federally threatened and endangered (T&E) species. No federally listed T&E species or designated critical habitats were identified within or near the proposed action area (Section 3.1.5). Additionally, no federally listed species have been historically documented within the INL Site. Therefore, no consultation under ESA Section 7(a)(2) is required. However, if new information reveals activities that may affect T&E species, consultation with the USFWS Idaho Field Office would be initiated.

State-listed species are protected under the *Idaho State Wildlife Action Plan*, per Title 36 of the Idaho Code. There are seven Idaho Fish and Game (IDFG) State-listed species known to occur on or in the immediate vicinity of the INL Site (Section 3.1.5). These species include the greater sage-grouse (*Centrocercus urophasianus*) – an IDFG Species of Greatest Conservation Need (SGCN) Tier 1, pygmy rabbit

(*Brachylagus idahoensis*) – SGCN Tier 2, hoary bat (*Lasiurus cinereus*) – SGCN Tier 2, silver-haired bat (*Lasionycteris noctivagans*) – SGCN Tier 2, Townsend's big-eared bat (*Corynorhinus townsendii*) – SGCN Tier 3, western small-footed myotis (*Myotis ciliolabrum*) – SGCN Tier 3, and little brown myotis (*M. lucifugus*) – SGCN Tier 3. Land-clearing activities are not expected to impact State-listed bat species, as no loss of hibernacula would occur (Section 4.5.1). The proposed action would result in the direct loss of vegetation and associated indirect impacts to pygmy rabbit habitat could occur. However, this action would not cause loss of local populations from direct mortality or diminished survivorship as the documented pygmy rabbit burrow system does not occur within the permanent impact area. The burrow system is located within the temporary disturbance area and would be avoided during construction. Therefore, no State-level consultations with IDFG are required.

The DOE and the USFWS established the CCA (DOE-ID & USFWS 2014). There are no greater sage-grouse lek locations within the proposed action area (Section 3.1.5). The closest documented lek site is categorized as inactive and is located about 1.7 miles northwest. The closest active lek is located about 2.7 miles east of the proposed project area. Although the sage-grouse does not warrant protection under the ESA, DOE and USFWS continue to collaborate on sage-grouse protection at the INL Site. The proposed project area is not within the established sage-grouse conservation area but is subject to DOE's 'no net loss of sagebrush habitat' policy on the INL Site. In compliance with the CCA (DOE-ID & USFWS 2014) the project must complete pre- and post-construction surveys to establish the amounts of sagebrush restoration and other native revegetation efforts needed to rehabilitate disturbed areas as determined by DOE's Environmental Surveillance, Education, and Research (ESER) contractor. To comply with DOE policy, the proposed action requires monitoring sagebrush disturbance and planting amounts equal to that disturbed in areas beneficial to sage-grouse.

The MBTA (16 U.S.C. 703-712) prohibits taking any migratory bird, or any part, nest, or egg of any such bird, without authorization from the USFWS. DOE-ID has a Special Purpose Permit for limited nest relocation and destruction and the associated take of migratory birds if absolutely necessary for mission-critical activities. The permit would be applied in very limited and extreme situations where no other recourse is practicable (INL 2019c:2.14, 2.15). In accordance with the USFWS Mitigation Policy, DOE would be required to evaluate ways to avoid or minimize any such impacts during construction and operation of the proposed facilities. This may include implementing restrictions during land-clearing activities for MBTA-protected species. Surface- and vegetation-disturbing activities should avoid nesting season for the various groups of birds or be preceded by surveys to confirm the absence of nesting birds. Construction/land-clearing activities, including vegetation removal, would be controlled to preclude damage to active nests of passerines. Work during the migratory bird nesting season for passerines (April 1 through October 1) would require a migratory bird nesting survey 72 hours prior to vegetation disturbance in an area. If surveys discover active nests, measures would be implemented, such as buffer areas or halting work, to prevent nest abandonment until after the migratory bird nesting season or until young have fledged.

No bald or golden eagles protected under the Bald and Golden Eagles Protection Act (16 USC 668-668c) are known to nest in or near the proposed project area (Section 3.1.5). Therefore, no consultation with USFWS is required. If bald or golden eagles, their nests, or their eggs appear near the proposed action area prior to the initiation of construction-related activities, DOE would be required to obtain a permit from the USFWS if disturbance or relocation was determined to be necessary.

Cultural Resources Consultations – Prior to any new facility construction or existing facility modifications, DOE would consult with the Idaho State Historic Preservation Officer, Tribes, and interested parties in compliance with Section 106 of the NHPA and its implementing regulations (36 CFR Part 800) and follow requirements as appropriate or as specified in the *INL Cultural Resource Management Plan* (INL 2016f) and the *Programmatic Agreement Between the Department of Energy Idaho Operations Office the Idaho*

State Historic Preservation Office and the Advisory Council on Historic Preservation Concerning the Management of Historical Cultural Resources on the Idaho National Engineering and Environmental Laboratory (DOE-ID, ID SHPO, and ACHP 2004).

American Indian Consultations – The Shoshone and Bannock Tribes have a government-to-government relationship with DOE-ID that is strengthened and maintained through an Agreement-in-Principle between the Tribes and the DOE-ID (DOE-ID 2017). The Agreement-in-Principle defines working relationships between the Shoshone and Bannock Tribes and DOE-ID and fosters a mutual understanding and commitment to addressing a variety of tribal concerns regarding protection of health, safety, and environment, including cultural resources of importance to the Tribes. DOE initiated consultation with the Shoshone-Bannock Heritage Tribal Office during the planning for the 2019 and 2020 cultural resource survey of the project area. DOE information the Shoshone-Bannock Heritage Tribal Office of the results of the survey and will provide the Office with a copy of the report. Additional consultation with the Shoshone and Bannock Tribes would be conducted in accordance with the Agreement-in-Principle.

7.3.2 Oak Ridge National Laboratory

Ecological Resources Consultations – DOE would be required to consult with the USFWS, Tennessee Ecological Services Field Office regarding potential impacts to federally listed T&E species protected under the ESA as a result of the proposed action. Land-clearing activities, including tree removal, and changes to hydroperiods may affect special status species and their habitats (such as caves, karst, and other subterranean habitat), therefore consultation under ESA Section 7(a)(2) is required. Past surveys have identified multiple Federal and State-listed species and special habitats (Section 3.2.5). More surveys will be required and will need to be conducted at specific times of the year for the various sensitive plant and wildlife species (see Chapter 3, Tables 3–22 and 3–23) to determine the level of impact. Many of these could require consultation with the USFWS, USACE, TDEC, and/or the Tennessee Wildlife Resource Agency prior to fieldwork. Mitigation for Federal and State-listed species, aquatic features, and sensitive habitats may also be required. Some species, such as federally listed bats (e.g., Indiana bat [*Myotis sodalis*], northern long-eared bat [*M. septentrionalis*], gray bat [*M. grisescens*], little brown bat [*M. lucifugus*], small-footed bat [*M. leibii*], tricolored bat [*Perimyotis subflavus*]), amphibians (e.g., four-toed salamander [*Hemidactylium scutatum*]), and migratory birds (including the wood thrush [*Hylocichla mustelina*], a bird of conservation concern and management concern of which a breeding pair has been seen in the project area) may require that tree removal and other activities be avoided during certain times of the year. DOE would be required to consult with the USFWS about the potential impacts from the proposed action on bats, amphibians, and migratory birds. In accordance with the USFWS Mitigation Policy, DOE would be required to evaluate ways to avoid or minimize any such impacts during land-clearing activities.

No bald or golden eagles are known to nest within the proposed action area (Section 3.2.5). The nearest recorded active bald eagle nest is approximately 2 miles northeast of the site. Therefore, no consultation with USFWS is required. If bald or golden eagles, their nests, or their eggs appear near (within 1 mile) the proposed action area prior to the initiation of construction-related activities, DOE would be required to obtain a permit if disturbance or relocation was determined to be necessary.

In accordance with DOE Compliance with Floodplain and Wetlands Environmental Review Requirements (10 CFR Part 1022), DOE would be required to consult with the USFWS and USACE about the potential impacts from the proposed action on streams, springs, and wetland areas within the proposed action area. Minimally, this would include Section 404 coordination with the USACE regarding wetland delineations (USACE 1987), coordination with the TDEC regarding stream evaluations, Exceptional Tennessee Waterways, and hydrologic determinations of currently unclassified channels and wet weather conveyances (TDEC 2020b).

Cultural Resources Consultations – Prior to any land disturbance and facility construction, DOE would consult with the Tennessee State Historic Preservation Officer, Tribes, and interested parties in compliance with Section 106 of the NHPA and its implementing regulations (36 CFR Part 800). Site activities would be performed in accordance with the requirements specified in the *Cultural Resource Management Plan* (DOE-OR 2001) and the "Programmatic Agreement Among the Department of Energy Oak Ridge Operations, Tennessee State Historic Preservation Office, and the Advisory Council on Historic Preservation Concerning the Management of Historical Cultural Properties at Oak Ridge National Laboratory, Oak Ridge, Tennessee" (DOE-OR 2005).

American Indian Consultations – Prior to any ground-disturbing activities, DOE would consult with the Eastern Band of the Cherokee Indians and the Cherokee Nation of Oklahoma in accordance with Section 106 of the NHPA and its implementing regulations (36 CFR Part 800) and Executive Order 13175.

7.3.3 Savannah River Site

Ecological Resources Consultations – Constructing/modifying and operating facilities in support of the option for reactor fuel fabrication in K Area are not expected to have any impact on federally listed T&E species. No federally listed species are known to occur in or near the K Area (Section 3.3.5), construction/modification would be internal to buildings in K Area, and no new land disturbance is expected. If new information reveals activities that may affect T&E species, consultation with the USFWS and South Carolina Ecological Services Office would be initiated.

No bald or golden eagles are known to nest in or near K Area (Section 3.3.5). Therefore, no consultation with USFWS is required. If bald or golden eagles, their nests, or their eggs appear near K Area prior to the initiation of construction-related activities, DOE would be required to obtain a permit if disturbance or relocation was determined to be necessary.

Construction and operation of the proposed reactor fuel capability in an existing building in K Area is not expected to impact migratory birds (Section 4.5.3.2), but if necessary, DOE would consult with the USFWS about potential impacts on migratory birds. In accordance with the USFWS Mitigation Policy, DOE would be required to evaluate ways to avoid or minimize any such impacts during construction and operation of the proposed facilities.

Cultural Resources Consultations – Similarly, constructing and operating the reactor fuel production capability in an existing building in K Area are not expected to affect archaeological resources because there would be no new land disturbance and K-Reactor is not an NRHP-eligible Historic Cold War property (Section 4.6.3.2). Therefore, DOE would not need to consult with the South Carolina State Historic Preservation Office, Tribes, and interested parties to comply with Section 106 of the NHPA and its implementing regulations (36 CFR Part 800). Activities would be conducted in accordance with survey requirements, as appropriate or as specified in the Archaeological Resource Monitoring Plan (SRARP 2016), Programmatic Memorandum of Agreement (SRARP 2016:Appendix C), and the Programmatic Agreement and Cold War Historic District CRMP (DOE, SC SHPO, and ACHP 2020).

American Indian Consultations – Consultations with Native American groups are not expected to be needed at SRS because construction/modification would be internal to buildings in K Area and no new land disturbance is expected. Inadvertent discoveries of American Indian resources would be handled in accordance with the requirements of 43 CFR Part 10, "Native American Graves Protection and Repatriation Regulations," regarding American Indian human remains, funerary objects, objects of cultural patrimony, and sacred objects.